

We claim:

1. The use of aqueous microcapsule dispersions with latent heat storage materials as capsule core and a polymer as shell, which are obtainable by heating an oil-in-water emulsion in which the monomers, free radical initiators and the latent heat storage materials are present as a disperse phase, where the monomer mixture comprises
 - 30 to 100% by weight, based on the total weight of the monomers, of one or more monomers I chosen from C_1 – C_{24} –alkyl esters of acrylic acid and methacrylic acid, methacrylic acid and methacrylonitrile,
 - 0 to 80% by weight, based on the total weight of the monomers, of a bi- or polyfunctional monomer II which is insoluble or sparingly soluble in water and
 - 0 to 40% by weight, based on the total weight of the monomers, of other monomers III,
- as heat transfer liquids.
2. The use of aqueous microcapsule dispersions as claimed in claim 1, wherein the average particle size of the microcapsules is 0.5 to 100 μm .
3. The use of aqueous microcapsule dispersions as claimed in claim 1 or 2, wherein the latent heat storage materials are lipophilic substances which have their solid/liquid phase transition in the temperature range from -20 to 120°C.
4. The use of aqueous microcapsule dispersions as claimed in claims 1 to 3, wherein the polymer is a highly crosslinked methacrylic ester polymer.
5. The use of aqueous microcapsule dispersions, wherein the oil-in-water emulsion comprises inorganic solid particles with an average size of from 0.005 to 1 μm .
6. The use of aqueous microcapsule dispersions as claimed in claims 1 to 5 as heat transfer liquid in a system comprising a heat-absorbing section and a section which gives off the heat, between which the heat transfer liquid is circulated, and if appropriate a pump to transport the heat transfer liquid.

7. The use of aqueous microcapsule dispersions as claimed in claims 1 to 5 as heat transfer liquid in a static system.
- 5 8. The use of aqueous microcapsule dispersions as claimed in claims 1 to 7 as heat transfer liquid, in systems chosen from the group consisting of heating and cooling system for buildings, heating and cooling system for automobiles, solar installations, chilling and freezing devices, industrial heat exchangers, cooling for computers and electronics, personal comfort systems, and microclimate heating and cooling systems.